STRATEGY RESEARCH PROJECT



# PROLIFERATION OF WEAPONS OF MASS DESTRUCTION: A POLICY IN SEARCH OF DIRECTION

BY

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# Proliferation of Weapons of Mass Destruction: A Policy in Search of Direction

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## ABSTRACT

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The list of countries possessing or building weapons of mass destruction (WMD) programs is growing, indicating that the traditional non-proliferation regimes of the Cold War era may have slowed but could not prevent the proliferation of WMD. The worldwide diffusion of information, globalization, advances in science and technology, and changes in the distribution of world power are creating powerful inducements and opportunities for states to proliferate, and devaluing traditional non-proliferation measures. Nuclear testing by India and Pakistan in May 1998 was not simply a non-proliferation policy failure. Rather, it was the predictable outcome of complex world change and porous non-proliferation regimes. Future non-proliferation efforts must target "demand", the inducements and political will to proliferate, more so than "supply", and must focus at the regional level. In a world of continuing proliferation, greater resources should be applied toward counter-proliferation.

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# BACKGROUND AND OVERVIEW

> The [US] administration needs to face some facts: the nuclear club is expanding; China and Russia are recklessly proliferating dangerous technology to rogue regimes; and some two dozen nations, many of them hostile to the U.S., are working to develop nuclear, chemical and biological weapons and the missile technology to deliver them.
>
> — Jesse Helms[1]

The proliferation of weapons of mass destruction (WMD) represents the most serious and rapidly expanding threat to the security of the United States, its citizens and forces abroad, today and in the foreseeable future. No longer an *emerging* threat, WMD proliferation is an *immediate* problem, with global implications and consequences.[2]

The list of states possessing WMD today, possessing the expertise and infrastructure to produce them (even if choosing not to), or simply known to be pursuing them is lengthening.[3] From 1980 to 1993, the number of countries with a confirmed or suspected chemical warfare program increased 85%, from 13 to 24. Countries with a confirmed or suspected offensive biological warfare program increased 250%, from 4 to 14, while countries with a confirmed or suspected nuclear weapons program increased 166%, from 6 to 16.[4] The number of states possessing or seeking sophisticated missile delivery systems has also spiraled upward.[5] This expansion is continuing today, and the greater its extent,

the greater the constellation of possible consequences for the United States.[6]

Weapons of mass destruction have forever altered the national security environment and changed the nature of regional conflict.[7] As we have recently seen in Southwest Asia (Iraq) and in South Asia (India and Pakistan), the emergence of a regional WMD threat tips the balance of power, heightens regional (or even global) tension, can ignite a regional arms race and may set the stage for armed conflict. The capability, whether actual or merely suspected, of an opponent to employ WMD against deployed United States forces makes the decision to commit those forces abroad more difficult, and substantially increases both the risk and cost of the operation. Because civilian and military decision makers must assume the use of chemical and biological weapons as a likely condition of any future warfare, WMD influence national policy and shape defense planning efforts.[8]

Weapons of mass destruction present a potentially catastrophic domestic threat to the security of the United States. The nation's enemies, whether states or terrorist groups, are far more likely, today and in the immediate future, to resort to terrorist acts using WMD against vulnerable civilian targets in the United States, rather than face the nation's conventional forces in military operations abroad. At the same time, easier access to WMD technology makes the destructive power available to these enemies greater than ever before.[9]

Like the national drug crisis, the problem of WMD proliferation is fueled by powerful forces of supply and demand. While advances in science and technology progressively increase the lethality, affordability and availability of WMD, regional instability caused by actual or perceived security threats (e.g., arms races, territorial disputes, ideological extremism, new and threatening alliances, etc.) fuel the demand for them.

States choose to proliferate for a variety of reasons and each case of proliferation is unique. Most do so for reasons of security (deterrence and/or defense), and nearly all states claim this as an essential motive. For some, WMD provide an intimidating instrument of political and military power with which to pursue goals of regional or world domination. Others proliferate to bolster their image and world standing. Still others do so to satisfy parochial interests, whether political, economic, military or some combination of these.[10]

As a matter of national policy, the US Government has fully "engaged" the problem of proliferation; but, as it has done in its war on drugs, the response has been to *attack across a broad front*, by applying resources and effort to the full spectrum of supply and demand challenges, with the most "visible" efforts targeting the *supply* dimension of the problem. There has been very little focus or prioritization of effort, and we are beginning to realize that we must fight what we can no longer prevent. The purpose of this paper is to evaluate the

effectiveness of our nation's WMD non- and counter-proliferation efforts, present current and emerging challenges to national policy, and suggest policy changes that might better protect the nation, its citizens and forces from the increased WMD threat of the next decade and century.

The paper is organized into five sections. The next section describes the global trends and conditions inducing WMD proliferation today and in the next century. Nearly without exception, these global forces devalue traditional non-proliferation policies while increasing opportunities and strengthening inducements for state and non-state entities to proliferate.

The third section provides an overview of current national non- and counter-proliferation policies, and the nation's strategic direction. This paper does not address in detail the many treaties, agreements, directives and programs implemented to prevent or combat proliferation. Non- and counter-proliferation policies and regimes are complex and multi-dimensional; it would be impractical, if not impossible, to assess them individually. Further, this paper focuses upon "horizontal" proliferation - the spread of WMD within and between states and non-state actors. It does not address aspects of "vertical proliferation" such as the mechanics of arms reduction or control within nations.

The fourth section presents a short case study of the nuclear arms race between India and Pakistan, and their subsequent

nuclear testing in May 1998. This event has brought to the forefront the unique challenges and issues with which policy makers must contend, and argues that the testing in South Asia was not simply a non-proliferation policy failure. Rather, it was the predictable outcome of complex world change and porous non-proliferation regimes.

The paper ends with conclusions and recommendations for a national strategic direction, and argues the case that traditional non-proliferation policies and programs, with their global focus, can no longer prevent the technical proliferation of WMD. Global trends and the emergence of new threats are perforating non-proliferation barriers, especially where determined rogue states are involved. Future non-proliferation efforts must target the inducements and political will to proliferate, and focus at the regional level. In a world of proliferation, each addition to the growing list of states possessing WMD: 1) increases the likelihood of another rogue state, terrorist or extremist group acquiring WMD, 2) advances the day when United States military forces will face WMD on a battlefield and, 3) brings closer the eventuality of WMD use against US citizens within the nation's borders.

## PROLIFERATION AND A RAPIDLY CHANGING WORLD

> Exotic weapons of mass destruction are dislodging from the countries that built them - countries that never wanted to use them. Now ... these extraordinarily destructive devices are finding their way into the hands of people that do want to use them. They have no reason not to threaten the very fabric of the developed world - and now, they have the means to do so.
>
> — John Peterson[11]

Today's world is changing rapidly and in unprecedented ways. A revolution in science and technology is illuminating the darkest corners of the earth, while the end of the Cold War has removed formidable barriers to the cross-border exchange of materials, information and technology. Everything is moving faster and is being globally connected to everything else; there will soon be no place on earth where one cannot access the entire global network. Unfortunately, not every nation is participating in this revolution, and widening gaps between the "haves" and "have nots" will create regional tensions that will fuel arms races and induce WMD proliferation.[12]

For many years after the advent of nuclear weapons, the majority of nations had little access to WMD and made little effort to acquire them.[13] The declared nuclear weapon powers were the primary brokers of WMD, and global politics and security arrangements provided neither the strong inducements nor the rich opportunities for most other states to proliferate. Today, the

cast of proliferation characters has expanded and includes: 1) new regional powers, 2) religious, ethnic and nationalist groups, 3) other politically disaffected groups and non-state actors and, 4) terrorist and criminal organizations.[14]

Four global trends and conditions have emerged as catalysts of proliferation today and in the 21st Century. The worldwide diffusion of information, global interconnectedness, remarkable advances in science and technology, and substantial changes in the distribution and nature of world power create multiple opportunities and strong inducements for nations to acquire or spread WMD.

The capital commodity of the 21st Century will be information.[15] States will buy, sell, share, steal, smuggle and compete for it. Much of it will be high-tech, dual-use and broadly accessible through international communications. While the global diffusion of information furthers economic growth and competitiveness, it also creates widespread access to the knowledge required to make WMD. The diffusion of scientific information on nuclear bomb and common nuclear reactor technology helped produce today's sizable and growing list of latent nuclear weapon states.[16] According to one European diplomat, the use of modern communications, notably the Internet and FAXes, has provided unemployed Russian chemical, biological and nuclear scientists with a global network within which to sell sensitive WMD technology and information.[17]

We live in an era of accelerating economic, technological, cultural and political integration. This "globalization" is bringing citizens from all continents closer together and allowing them to share ideas, goods and information at the tap of a keyboard.[18] As state security, economic, geo-political, technological and religious interests increasingly overlap with those of other states and non-state actors, their respective "circles of interest" widen and expand the network of proliferation opportunities.[19] This network can link asymmetric groups and states, along lines of shared or conflicting interests such as ideology or terrorism. An example of this network is depicted in the fourth section, illustrating proliferation in South Asia.

The emergence of a true world economy creates a network of opportunities for WMD proliferation. The rising tide of trade and technology enables potential and emerging proliferators to easily assemble the materials needed to produce WMD indigenously, or to leap developmental hurdles altogether by purchasing key components "off the shelf".[20] While the world's lesser developed nations seek weapons which they can not manufacture, the weapons manufacturers of the world actively seek new customers to offset the significant decrease in market share associated with the end of the Cold War.[21] Both China and Russia have added WMD, notably delivery systems, to their armaments sales menu.

The thresholds of science and technology are expanding at amazing rates - a new cycle about every 18 months.[22] Because WMD are technology-based products, their proliferation expands along with the proliferation of advanced technology in general. These two movements are inseparable. Science and technology are producing more compact and destructive weapons, while placing them in a greater number of hands. These weapons can be more affordable than conventional weapons of similar lethality and are easier to manufacture because of the wide range of "dual-use" technologies available to potential proliferators through reverse engineering, open market purchase and information networks. Today, nearly all the materials needed to manufacture biological and chemical weapons are dual-use and widely available for commercial purposes. Dual-use chemical manufacturing and biotechnology processes make it easy to disguise clandestine WMD programs, and to conceal facilities from aerial and satellite surveillance, or from inspectors on the ground.

Technology has also simplified the means of delivering WMD. Proliferators no longer require sophisticated ballistic missiles; WMD can be transported on small trucks, in cargo containers, or even in a lunch box. Dry biological agents, in particular, can be hand delivered, are easily smuggled and can produce devastating effects from very small quantities.[23] At the high tech end of the delivery spectrum, cruise missile technology, combined with growing access to navigational aids such as the

Global Positioning System, provides an attractive, low cost and effective delivery option.[24]

In the aftermath of the Cold War, the world's distribution of power, which was shared inequitably by the world's nations during the Cold War but with two dominant spikes (the US and USSR), is leveling. Regional security accommodations are replacing the superpower-dominated relationships and, as political power diffuses away from strong national organizations, regional pressures are replacing global tensions.[25] The United States' allies and partners are already exercising more independence in world and regional matters as a result of their economic successes and the absence of a mortal threat that only the United States can counter.[26]

Though the end of the Cold War created an appearance of American unipolarity, it has actually led to the rise of additional power centers.[27] The emergence of loosely connected groups with greater relative power, strong regional interests, and complex, perhaps hidden, agendas will make the coordinated pursuit of foreign policy more difficult and further frustrate efforts to establish or enforce global non-proliferation standards. As new international forums and coalitions emerge, an increasing number of international groups (e.g., public and private organizations, multinational corporations, international organized crime) will try to influence global security issues, and may be willing to use or to proliferate WMD in doing so. As

technology evolves further, even small groups and individuals may have the power to threaten established governments.[28]

Though future access to information will be comparatively equal for the majority of nations, many will lag behind and will be unable to exploit the benefits of global information access and the proliferation of advanced technology. The gap between the economic, technological and scientific "haves" and "have nots" will widen, could fuel regional conflict, and further widen the gap. When a state that possesses WMD falls into collapse, we will have a special and serious circumstance - a "failed" state. Present day Russia provides the best example of this new proliferation threat.

The disintegration of the Soviet Union and subsequent economic collapse of Russia have created the most serious proliferation threat to ever confront the world. Since 1991, a steady stream of know-how and technology and, in some cases scientists themselves, have been plucked from Russia by nations hungry to build their own WMD.[29] Iran and Iraq have been two of the most active states seeking materials, nuclear specialists and advanced weapons designers from Russia.[30]

In this decade, we have glimpsed the threatening face of proliferation for the next century.[31] Tomorrow's proliferators will be more diverse, widespread and elusive, and less bound by international controls. They will also be far more dangerous and less predictable. The new cast of proliferation players will be

more likely to acquire WMD in order to use them. As the sarin gas attack in the Tokyo subway and the Oklahoma City bombing have shown us, non-state actors may become more aggressive in using weapons that cause large-scale casualties to further their aims. The United States has become the last remaining world superpower, and anti-Americanism has remained strong among the new cast of proliferators.[32]

## CURRENT POLICY - STRENGTHS AND CHALLENGES

> "Weapons of mass destruction, particularly nuclear weapons, are making a comeback as traditional approaches to non-proliferation have an increasingly weaker effect on aspiring regional powers."
>
> — 1998 Strategic Assessment [33]

The United States exercises global leadership in efforts to prevent the proliferation of WMD and is arguably the *only* nation able to provide the organization and resources needed to respond to an international threat as destabilizing and dangerous as WMD.[34] Our nation's leadership recognizes the proliferation of WMD as a vital national interest and acknowledges that "we must lead abroad if we are to be secure at home."[35]

Current national policy is broad based and attacks the threat of proliferation across a wide front, employing diplomacy, sanctions and, as a last resort, military force as tools of persuasion and enforcement. The nation's policy orientation has been global, seeking multinational support of international regimes that target the spread of WMD. Policy and decision makers have historically focused resources and their efforts on technical proliferation.

The nation's overall strategy to combat proliferation rests upon the pillars of *prevention*, *reduction* and *protection*, which directly align with the national security strategy of *shape*,

*respond* and *prepare for the future*. The supporting policy objectives are described in the paragraphs below.

The first priority and objective is to prevent proliferation from occurring in the first place. Means employed to prevent proliferation are termed *non*-proliferation measures. These measures are generally low-cost, non-threatening and seek to shape the international environment through diplomacy.

The second objective is to reduce existing and emerging WMD threats, employing measures that may target supply or demand. Reduction policies generally focus on the containment of a threat or on its reduction through the application of coercive diplomacy or military force. Reduction bridges the gap between *non*-proliferation (measures to prevent proliferation) and *counter*-proliferation (measures to protect from WMD), through means such as arms reduction and control agreements, or on-site inspections.

Finally, national policy seeks to protect the nation's infrastructure, citizens, and forces abroad from the devastation of WMD, both before and in the aftermath of an attack. Counter-proliferation measures are inherently defensive and may be either passive or active (pre-emptive) in their orientation. Passive measures include initiatives such as the development and fielding of shielding and decontamination devices, and agent detection and monitoring instruments. Active measures include ballistic missile defense, counter-force operations and consequence management, to name a few.

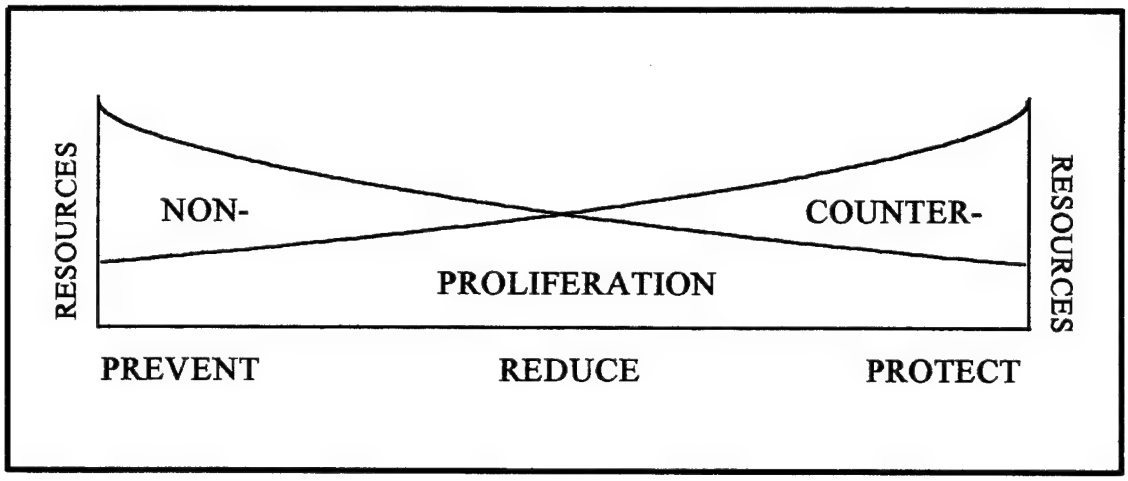


**FIGURE 1: POLICY CONTINUUM**

The distinction between *non*-and *counter*-proliferation can be cloudy because their objectives blend together. For example, a measure which effectively protects forces from WMD attack (counter-proliferation), such as ballistic missile defense, also devalues an opponent's possession and use of WMD (missiles in this case) and thus has an inherent preventive (non-proliferation) value. It is helpful to visualize *non*-proliferation and *counter*-proliferation as the ends of a continuum, as depicted at Figure 1.

The United States rejects the use of biological and chemical weapons and supports the Biological Weapons Convention and the Chemical Weapons Conventions, both of which are international non-proliferation regimes. However, the United States has not renounced its use of nuclear weapons and, as a matter of policy, retains them to deter general war, to control its escalation,

using nuclear force if necessary, and to terminate war on terms favorable to the nation.[36]

The nation's strategic "aims" guide its formulation of non- and counter-proliferation policies. The primary aim is to retain the freedom to employ the nation's conventional forces worldwide and free from the threat from WMD. To do so, the United States seeks to prevent the emergence of new nuclear powers and maintains a credible strategic nuclear deterrent. Further, the United States retains the option to retaliate with nuclear weapons for any opponent's use of any WMD. Clearly, this implies that WMD are here to stay.

The United States also seeks to prevent the proliferation of missile systems that can target the United States. Here too, the nation's policy is faltering. While Russia has long possessed ICBMs capable of reaching the United States, China now possesses them also. Further, despite the constraints of the international Missile Technology Control Regime, both Russia and China are transferring missile technology and components to other states in violation of international regimes. At the same time, developing states are insisting upon the right to deploy missile systems for legitimate dual-use purposes such as defense and to launch satellites.

A third major policy aim of the United States is to maintain its technological superiority. Under the global conditions described earlier, there is some risk of the United States

gradually losing its technical preeminence. Many of the sensitive technologies which the United States blocks from export at its own borders, in support of export controls, readily proliferate from other nations. In these instances, the loss of technology market share might cause more long-term harm to the nation, at least economically, than would the proliferation of the technology from the United States.

Because the nation's strategic approach is broad, and for the benefit of the reader, this paper organizes non- and counter-proliferation policies and programs into four general categories, reflecting the dual dimensions of supply-demand, and prevention-reduction-protection. These categories are termed "*Shape-Prevent*", "*Shape-Assist*", "*Respond-Deter*", and "*Respond-Protect*", describing their main attributes. Figure 2 depicts the major policies and programs within each category.

The first category, "Shape-Prevent", consists of the "traditional" non-proliferation policies and programs, which seek to prevent technical proliferation by shaping the international environment. They are low-cost, non-threatening and represent the earliest attempts at non-proliferation using diplomacy. This category includes technology and export control regimes, controls over fissile materials, and dozens of bilateral and multinational non-proliferation agreements and treaties. The "Shape-Prevent" policies have suffered the most under the pressures of global change described earlier.

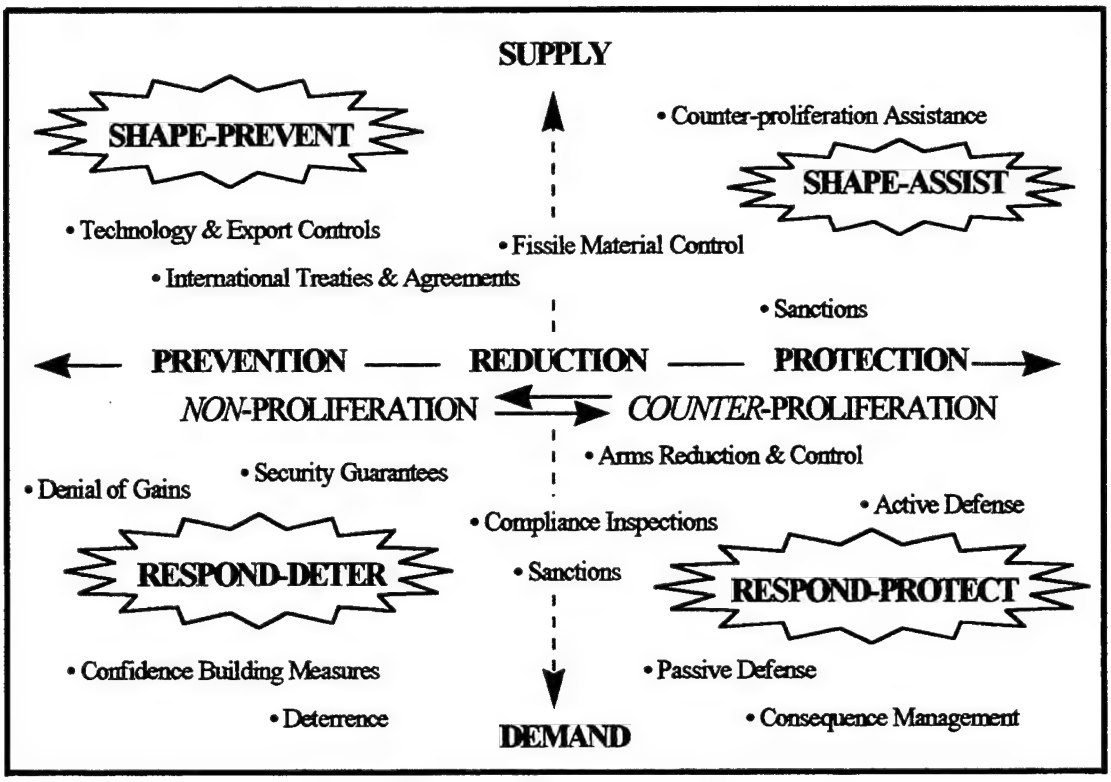


**FIGURE 2: CATEGORIZATION OF POLICIES**

Though the United States firmly supports technology and export control regimes, it is arguably impossible to halt the further proliferation of advanced weapons technology in a global setting characterized by the proliferation of technology in general.[37] Dual-use technologies are simply too widespread and available both on the open market and through illicit channels.[38] The case of the Iraqi nuclear weapons program vividly illustrates this quandary. Though efforts were successful in delaying and increasing the cost of the Iraqi program, post-Gulf War discoveries about Iraq's nuclear program revealed it to be much more advanced than suspected. Iraq had acquired critical dual-use components both on the open market and through illicit trade

with companies from states that are members of export control regimes.[39]

International treaties and agreements form the bedrock of United States non-proliferation policy.[40] Two of the more recent and controversial non-proliferation treaties are the Nuclear Non-proliferation Treaty (NPT) and the Comprehensive Test Ban Treaty (CTBT). These two watershed regimes, each heralded as international successes, are falling under criticism for their failures.

The NPT, which went into effect in 1968 and claimed 120 signatories in 1994, prohibits the transfer of nuclear weapons and nuclear weapon production technologies to non-nuclear weapon states.[41] Increasingly, these non-nuclear weapon states are questioning the basic fairness of an international regime that denies them the same security assurances possessed by the nuclear weapon states. The "wound" in the NPT is worsened by its inability to stop non-nuclear weapon states that have signed the treaty, such as Iraq and North Korea, from embarking on clandestine programs, and its failure to stop advanced industrial states, such as China, from transferring nuclear technology to non-nuclear states.[42]

Similarly, the CTBT, which bans all nuclear test detonations and has been signed by 150 nations, is beginning to crumble. India and Pakistan, each of whom has rejected the CTBT and conducted its own nuclear tests in May 1998, argue that the CTBT

merely protects the status quo of the nuclear weapon states at the expense of the non-nuclear weapon states, and that agreements such as the NPT and CTBT blatantly ignore the legitimate security concerns of the non-nuclear weapon states in a proliferating world. The 1995 ratification of the NPT for an indefinite period, though heralded as a non-proliferation victory by the United States, is viewed by India and Pakistan as indefinitely legitimizing nuclear arsenals in the hands of the nuclear weapon states. Viewed from India's perspective, it is easy to see the logic of that argument. Further, because of the great difficulty of enforcing treaty compliance, non-proliferation treaties and agreements are often critically viewed as more often serving merely to "keep the honest people honest."

The second category, "Shape-Assist", consists of counter-proliferation policies and programs which look to shape the international environment by helping other states to address their own proliferation problems. As with the "Shape-Prevent" category, these also predominantly target the supply dimension. The "Shape-Assist" category is the newest and most promising of the nation's responses, in that it addresses the root causes of proliferation, notably within the former Soviet Union, and maintains a more flexible, regional focus. This category includes the Counter-proliferation Assistance Program, elements of the Fissile Material Control regime and the (Russian) Denuclearization Program.

The third category, "Respond-Deter", consists of those non-proliferation programs and policies which seek to prevent (or reduce) proliferation by addressing the inducements for states to proliferate. More so than any other category, "Respond-Deter" attacks the root causes of proliferation, targeting the demand for WMD, and includes regional security guarantees, the denial of gains, compliance inspections, confidence-building measures, and deterrence.

The fourth category, "Respond-Protect", consists of those counter-proliferation programs and policies which focus upon protection. "Respond-Protect" is predominantly defensive and includes the measures of last resort such as counter-force and ballistic missile defense, employed when the threat is "on the horizon" or imminent. Programs and policies in this category provide for active (pre-emptive) defense or devalue our adversaries' use of WMD by minimizing our own vulnerabilities and weaknesses.

In summary, the United States' strategy for attacking the threat of WMD proliferation is broad, with its cornerstone being diplomatic shaping to garner international support for global non-proliferation regimes. However, evidence of continuing proliferation strongly suggests that the "traditional" non-proliferation regimes are too porous. While competing economic and political interests often drive the developed states to spread WMD components and technologies, political and security

interests induce the less developed states to acquire WMD. The enforcement of non-proliferation norms is selective and, short of military response, weak. Even when military force is the response, the results can be indecisive, as is now the case with Iraq. Nuclear proliferation in South Asia highlights many of these shortfalls and presents a scenario that is likely to repeat itself in other regions of the world. These new threats and challenges to the nations' interests will demand new perspectives, priorities and policies.

## INDIA/PAKISTAN - IMPLICATIONS

> The consequences of a nuclear war between India and Pakistan would be catastrophic, both in terms of the sheer loss of life and in lowering the threshold for nuclear conflict elsewhere in the world.
>
> — Office of the Secretary of Defense[43]

On May 11th 1998, India detonated three underground nuclear devices, followed by two more on the 13th of May. Conducted as tests, the detonations ranged from the sub-kiloton and fission variety to a thermonuclear device. Through these tests, the world glimpsed India's scientific, technical and organizational abilities, which until then had not been fully apparent. Two weeks later, on May 28th and 30th, Pakistan, India's neighbor and enemy to the West, reciprocated with its own nuclear tests in the Chagai Hills of Baluchistan, near the Afghanistan border.[44] Pakistan, unlike India, had never before detonated a nuclear device.

These "shots heard 'round the world" reminded everyone of the nuclear tension in South Asia, and of the main friction point between the two nations - the disputed province of Kashmir. The present day Indo-Pakistani tension began in 1947 when Great Britain granted independence to the Republics of India and Pakistan, separating their Hindu and Muslim peoples and their respective leaders. Pakistan was further divided into east and

west Pakistan, separated by nearly 1000 miles of northern India. The many provinces could join either India or Pakistan by signing an "Instrument of Accession". The Maharajah of Kashmir, ruling over a cultural composite of Hindus and Muslims contiguous to both India and Pakistan, refused to sign the instrument. Pakistan attacked, prompting Kashmir's decision to join with India as a precondition for military assistance. After wars in 1947, 1965 and 1971, the Kashmir issue remains unresolved.[45]

From both India's and Pakistan's perspective, their tests violated no international obligations to which they were bound. Both had refused to sign the Comprehensive Test Ban Treaty (CTBT) in 1996, and to endorse the nuclear Non-proliferation Treaty (NPT) when it was extended in 1995. India openly rejected any notion that it must comply with a treaty it had not agreed to honor. Pakistan made clear its intent to reject any *unilateral* restrictions imposed on its fledgling nuclear weapons program.

India claims to have long been an advocate of global nuclear disarmament, having called for a ban on nuclear testing in 1954, a non-discriminatory treaty on non-proliferation in 1965, a treaty on non-use of nuclear weapons in 1978, a nuclear freeze in 1982, and a phased program to attain global nuclear disarmament in 1988. From India's viewpoint, these overtures were rejected by the declared nuclear weapon powers because their own security hinged upon the deterrent value of their nuclear weapons.[46]

India's nuclear weapons program and refusal to endorse the NPT reflect two core interests. The first is security and the threat posed by its neighbor, China. India is presently the only country in the world sandwiched between two nuclear powers, both of whom are hostile to India. The continued rise of China as a world power has heightened India's security concerns. However, there is a second and, arguably, more important interest. India visualizes itself as a regional and global power in the 21st Century and regards its possession of nuclear weapons as essential for its assertion of a global role.[47]

India justifies its position on nuclear proliferaton with the argument that its own security, in a world of proliferation, must lie in *either* total global nuclear disarmament *or* in the exercise of the principle of equal and legitimate (nuclear) security for all nations. From India's viewpoint, the NPT exists solely to protect the nuclear status quo of the declared nuclear weapon powers, who themselves will never disarm. Further, India has stated that it lacks faith and confidence in the NPT as an enforceable international regime, citing China's assistance to Pakistan in the development of its nuclear and missile programs as a flagrant violation of the NPT.[48]

Pakistan's nuclear weapons program arose from security concerns following India's first nuclear test detonation in 1974. Pakistan's nuclear arsenal provides it a sense of equality with India, and a feeling of security through deterrence.[49] Unlike

India's program, which was seeded by technology exported by Western nations for a legitimate purpose (power generation), and which is now indigenously sustained, Pakistan actively sought and received foreign nuclear technology for weapons development, principally from China.[50]

The nuclear risk in South Asia extends beyond the possible eruption of a fourth Indo-Pakistani war. Pakistan is suspected of extending support to Sikh extremists.[51] Though Pakistan has made no known overt overtures to proliferate nuclear technology to another nation or organization, it is known to be courting "status" among the Islamic nations through its nuclear weapons program.[52] Little is known about Pakistan's ability and resolve to closely guard its nuclear components and technologies, but there exists a link between Pakistan and Islam, and it is conceivable that this link might one day provide a path for the proliferation of WMD to other Islamic states or even to extremist branches of Islam.[53]

India and Pakistan are directly linked to neighboring Russia and China as sources of military and technical assistance. They are also indirectly linked to Iran and Iraq through arms sales, and to the Middle East through shared religions. The result is a large and complex network with overlapping and connected "circles of interest" which create inducements and opportunities to proliferate. Figure 3 depicts how this cast of proliferation characters link together in Asia.

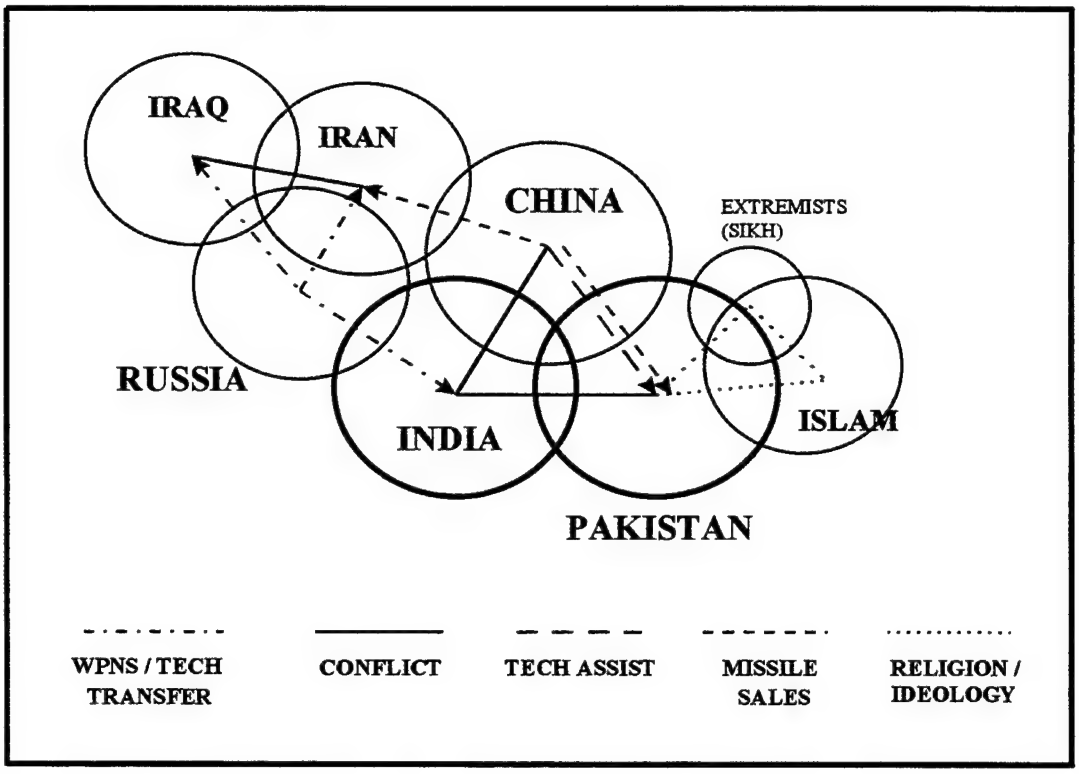


**FIGURE 3: CIRCLES OF INTEREST - INDIA AND PAKISTAN**

The nuclear tests in South Asia highlight some fundamental shortcomings of traditional non-proliferation policies. Despite widespread global support of the NPT, it has prevented neither India nor Pakistan from acquiring nuclear and missile technologies and components from other nations that are signatories of the NPT. Though India developed its nuclear weapons program indigenously, it did so on a foundation of technologies provided by Canada in the form of nuclear reactors. Pakistan obtained the requisite industrial equipment from Germany, France and Italy, and its nuclear technologies and delivery system directly from China.[54]

While the United States recognizes the sovereign right of states to determine their individual defense needs, there are grounds for real concern that a future Indo-Pakistani war for Kashmir might involve nuclear weapons.[55] The United Nations Security Council, the G-8 nations and the United States have asked India and Pakistan to renounce further nuclear tests, sign the CTBT (immediately and unconditionally), resume diplomatic dialog to reduce tension, refrain from ballistic missile testing or deployment, stop fissile material production, and comply with international non-proliferation norms.[56] Further, the United States has imposed economic and trade sanctions against India and Pakistan, while the Pressler Amendment has denied them access to United States arms (sales).[57] Notably, the United States has recently loosened many of the sanctions against Pakistan in an attempt to normalize relations, and to mitigate the possibility of economic collapse within Pakistan and the resulting "Russia-like" scenario of a failed nuclear state.

The nuclear arms race in South Asia has set dangerous precedents. Both India and Pakistan, though unable to feed or provide basic care for their general populations, were able to penetrate the shroud of nuclear weapons technology. Further, both nations have been slow to adopt export controls at all comparable to those established within international control regimes, and neither has been sufficiently pressured to abandon

its nuclear weapons program or to comply with international norms, despite economic sanctions and adverse world opinion.

The greatest implication of this arms race lies in the aftermath of a fourth Indo-Pakistani War involving the use of nuclear weapons. Were this to happen, it would heighten the race for nuclear weapons and greatly lower the nuclear threshold which the world has grown to accept. It would mark the beginning of a new era in warfare, where local regional conflicts are fought with deadly, decisive blows.

Proliferation in South Asia reveals the extent to which we live in a proliferating world, in part fueled by the actions of the industrial nations. It further demonstrates that nearly any state can acquire WMD, and that nation states will freely reject international arrangements which fail to provide for their security in the face of new, emerging threats. International non-proliferation regimes must do much more than just "keep the honest, honest". Nations must believe that their participation in and support of international non-proliferation norms will enhance their security, not diminish it.

## CONCLUSIONS AND RECOMMENDATIONS

> Once again, technology has overtaken strategy... advances in technology, and the emergence of new adversaries, (may) have reduced the relevancy of non-proliferation strategies of the Cold War.
>
> — John F. Sopko[58]

The proliferation of WMD is an exceptionally complex, multidimensional problem. While some nations have chosen to embrace WMD as a tool for the pursuit or protection of their interests, legitimate or otherwise, others have rejected WMD altogether. Just as there is clearly no single cause of proliferation, there is no single means of controlling it. Though the future of proliferation is uncertain, there is substantial evidence to support some conclusions and recommendations.

From a technical perspective, the proliferation of WMD is inevitable. It is the natural result of the revolution in science and technology. Policy makers and diplomats can slow its progress but the technologies have spread widely and cannot be retrieved. Technical fixes, embargoes, and restrictions on materials, technology and equipment acquisition can delay but not prevent any nation with modest industrial infrastructure and the political will from acquiring nuclear weapons and missile capabilities. Nor can we prevent human ingenuity from devising

and discovering innovative methods and techniques for acquiring nuclear capabilities, or from developing new types of deadly chemical and biological weapons.[59]

This does not mean that the international community is helpless to slow or guide the path of proliferation. But doing so will require efforts that target the non-technical ingredients of proliferation, the incentives and political will to proliferate. Arguably, the *only* way to stop proliferation is to attack its root causes.

Traditional non-proliferation measures lack the focus needed to effectively combat proliferation. The NPT, CTBT, and export and technology controls each target the supply dimension of proliferation and seek global solutions through diplomacy, but bypass the regional issues that create the demand for WMD and fuel the political will to proliferate. In general, less effort should be expended in *preventing* technical proliferation while the demand side of the problem must get greater attention.[60]

This flaw of global non-proliferation regimes is most apparent in the wake of this decade's newest proliferation threats, the failing nuclear state and asymmetric organizations. During the era of the bipolar world, it was easy to compartmentalize states into two categories - those "with" and those "without" WMD. Today, many states possess both the technology and industrial infrastructure to develop, produce and deliver WMD, but in the absence of a strong inducement they

simply lack the political will to do so. The world has also recently witnessed the emergence of its first failed nuclear state, Russia. Confronted with dire economic conditions and the loosening of internal state controls over its WMD, the only element missing is the clear political will to proliferate. With its corrupt government, some would argue that the will is not missing at all in Russia. The threat of non-state entities with WMD presents yet another unique circumstance. Once a non-state entity gains access to WMD, it can be a very short step to its use. Their inducements may be purely ideological and the political will to use these weapons may have existed all along, or be imbedded within the ideology. These threats are not bound by international regimes; nor are diplomatic shaping and sanctions necessarily effective against a non-state, ideologically motivated actor.

The world will not collectively elect to abandon the use of WMD. The declared nuclear weapon powers have tenaciously held onto their nuclear weapons for their own security and survival in a world of proliferation. The United States, Russia, China, Britain, France and others undeclared have retained WMD as protection against an opponent's nuclear weapons or overwhelming conventional forces, and as a means of retaliation for an opponent's employment of WMD. This trend merely reflects the reality that nuclear weapons are "not just weapons of war, but are in effect, military deterrents and tools of diplomatic

coercion."[61] From India's viewpoint, the 1995 indefinite and unconditional extension of the NPT unfairly legitimized nuclear weapons in the hands of the select few who possessed them when the treaty was first implemented. India and Pakistan question the fairness and efficacy of coerced nuclear restraint. Ultimately, when confronted with a serious security threat, and in the absence of a security guarantee from a more powerful state or coalition, any nation might consider acquiring WMD for its own survival. In time, the global inducements to proliferate may far outnumber the reasons for restraint.

The United States sets a poor example as the global leader in non-proliferation efforts, often signaling a wavering commitment and resolve to non-proliferation in general, and at times encouraging proliferation. For example, President Clinton recently approved the production of tritium in three civilian nuclear reactors in order to replenish stocks that had decayed or otherwise been expended. Tritium provides an enormous "boost" to the explosive yield of nuclear weapons, but must be periodically replaced because it decays at a rate of 5% each year. The manufacture of tritium in civilian reactors is fundamentally inconsistent with the nation's non-proliferation policy, which insists that non-weapon states not use their civilian energy programs for military purposes.[62] As another example, the United States has resisted the imposition of mandatory economic and trade sanctions against China, a cherished future trade partner

and world economic competitor, despite absolute evidence that China continues to provide nuclear and missile technologies and components to Pakistan in clear violation of non-proliferation regimes. Posturing in this manner by the United States encourages further global proliferation.

The recent nuclear tests in South Asia demonstrate just how widely nuclear proliferation has expanded in the absence of effective, regionally focused non-proliferation policies. Whether India and Pakistan went nuclear for reasons of security, or for image and status, the point is that they did so, despite the existence of global norms to the contrary and with the help of industrial nations subscribing to the NPT. The world must now wonder whether India or Pakistan will become sources of proliferation themselves.

It is reasonable to conclude that the United States should change its response to the threat of WMD proliferation. A regional focus targeting the root causes of proliferation is needed, rather than continued reliance on international support of global non-proliferation regimes.

The United States has taken steps in the right direction and achieved positive results in its recent response to the threat of proliferation from Russia following its economic crises. The United States and its global partners have provided direct assistance to Russia by: 1) employing its nuclear, chemical and biological scientists and engineers in non-WMD research fields,

2) training the Government to build non-proliferation institutions that can work with the international community, 3) providing technical assistance and automation support to enhance Russian internal accountability and control over WMD, and 4) aiding in its destruction of excess WMD. These programs are regionally focused and directly target the root cause of Russian proliferation, the lack of control caused by economic devastation and the absence of adequate institutions.

The nation's leadership should prepare for technical proliferation to continue, or even accelerate in the next century. This should prompt a shift of resources and effort from supply to demand reduction, targeting the inducements and political will of states to proliferate, and addressing threats primarily at the regional level where the causes of proliferation usually lie. As WMD proliferation increases over time, the threat facing the nation may become more difficult and costly to manage, forcing the policy balance to shift in favor of counter-proliferation - an appropriate response to what may well become a *survival* interest of the United States in the next century.

Word Count: 8,064

## ENDNOTES

[1] Jesse Helms, "Clinton's Toothless Non-proliferation Policy," New York Wall Street Journal, 18 June 1998: A18. UMI ProQuest, General Periodicals OnDisc [CD-ROM], 1998, item 00999660.

[2] For the purpose of this study, the term *weapons of mass destruction* includes all nuclear, biological and chemical weapon systems, weapon system components, weapon system materials (to include fissile and radiological materials), related technologies (to include dual-use technologies) and missile systems as a means of delivery.

[3] William H. Lewis and Stuart E. Johnson, eds., Weapons of Mass Destruction: New Perspectives on Counter-proliferation (Washington, D.C: National Defense University Press, 1995), 6-7. State proliferators are characterized in a variety of ways. Robert Joseph offers a logical breakout - 1) states with undeclared nuclear capabilities and means of delivery (e.g., Israel), 2) instant proliferators (de facto nuclear states such as Belarus, Kazahkstan and Ukraine), 3) states with established nuclear weapon programs (Iraq, Iran, North Korea, India and Pakistan), 4) states with only very basic expertise and infrastructure (Algeria and Syria), and 5) states with full necessary expertise and infrastructure (Sweden, Japan and Germany).

[4] Robert C. Neumann and Robert D. Orton, "The Impact of Weapons of Mass Destruction on Battlefield Operations," Military Review, vol. 78, no. 12: 65.

[5] Lewis and Johnson, 4.

[6] Ibid., 17.

[7] Neumann and Orton, 64.

[8] Office of the Secretary of Defense, Proliferation: Threat and Response (Washington, D.C.: US Government Printing Office, 1997), iii.

[9] Office of the President, A National Security Strategy for a New Century (Washington, D.C.: US Government Printing Office, 1998), 19.

[10] Scott D. Sagan, "The Causes of Nuclear Proliferation," Current History, vol. 96, no. 609: 151.

[11] John Peterson, The Road to 2015, Profiles of the Future (Corte Madero, CA: Waite Group Press, 1994), 239.

[12] Ibid., 70.

[13] Sagan, 151.

[14] Institute for National Security Studies, Report of the Executive Seminar on Special Material Smuggling (Carlisle, PA: US Army War College, 1996), 55.

[15] Peterson, 39.

[16] Sagan, 151.

[17] David Hoffman, "Idled Arms Experts in Russia Pose Threats: Many Take Talents to Developing States Series: Shattered Shield: Death of a Russian Elite," The Washington Post, 28 December 1998: A16. UMI ProQuest, General Periodicals OnDisc [CD-ROM], 1998, item 01908286.

[18] Office of the President, 1.

[19] Lewis and Johnson, 55. Krishnaswami Sundarji uses the term "concern", rather than "interest" to describe the relationships between India, Pakistan, China, Russia and the United States.

[20] Ibid., 19.

[21] Peterson, 330.

[22] National Defense Panel, Transforming Defense: National Security in the 21st Century (Washington, D.C.: Government Printing Office, 1997), 8-9.

[23] Institute for National Security Studies, 56.

[24] Lewis and Johnson, 8-9.

[25] Peterson, 275.

[26] National Defense University. 1998 Strategic Assessment: Engaging Power for Peace (Washington, D.C.: U.S. Government Printing Office, 1998), 11.

[27] Jaswant Singh, "Against Nuclear Apartheid," Foreign Affairs, vol. 77, no. 5 (Sep/Oct 1998): 47.

[28] Peterson, 275.

[29] Hoffman, A2.

[30] Institute for National Security Studies, 57.

[31] Ibid., 55.

[32] Ibid., 57.

[33] National Defense University, 54.

[34] Office of the President, 1.

[35] Ibid.

[36] Michael J. Mazarr, START and the Future of Deterrence (New York, N.Y.: Saint Martin's Press, 1991), 23.

[37] Lewis and Johnson, 10.

[38] Ibid.

[39] Ibid., 11.

[40] Office of the President, 8.

[41] Lewis and Johnson, 241.

[42] Ibid., 45. Lewis and Johnson cite the following NPT violations: the transfer of nuclear weapons production equipment to Iraq from the UK and Germany; the transfer of nuclear technology and equipment to South Africa from Western Nations; the transfer of nuclear production equipment to Pakistan from Germany, France and Italy; the transfer of missile and nuclear technologies to Pakistan from China; and the transfer of enriched uranium to South Africa and Brazil from China.

[43] Office of the Secretary of Defense, 15.

[44] Singh, 43.

[45] National Defense University, 53.

[46] Singh, 44.

[47] Lewis and Johnson, 76.

[48] Singh, 44.

[49] Lewis and Johnson, 52.

[50] National Defense University, 54.

[51] Lewis and Johnson, 51.

[52] Ibid.

[53] Office of the Secretary of Defense, 15.

[54] Lewis and Johnson, 46.

[55] National Defense University, 53.

[56] Office of the President, 53.

[57] Ibid. United States imposed sanctions included termination of foreign assistance (except humanitarian assistance for food or other agricultural commodities); termination of foreign military financing and sales of defense articles and services; denial of credit (except agricultural), credit guarantees and financial assistance by any agency; and prohibition of bank loans, bank credit and the export of specific goods and services.

[58] Institute for National Security Studies, 52. John Sopko serves as the Deputy Chief Counsel to the Minority of the United States Senate's Permanent Subcommittee on Investigations.

[59] Lewis and Johnson, 72.

[60] Ibid., 67.

[61] Singh, 42.

[62] Jonathan S. Landay, "Critics Say U.S. Would Set Bad Example by Allowing Nuclear Power Plants to Make Tritium, an Atomic Weapons Element," Boston Christian Science Monitor, 28 December 1998: 3. UMI ProQuest, General Periodicals OnDisc [CD-ROM], 1998, item number not available. According to Landay, the Clinton administration is pursuing a $5 billion program to maintain American nuclear weapons know-how and improve the arsenal's capabilities. Under the Administration's decision, tritium would be produced by the Tennessee Valley Authority at three reactors.

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